Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A method for forming ~~an~~ two-dimensional ordered array ~~structure~~ of proteins~~amphiphilic molecules~~, comprising:

contacting a population of proteins~~amphiphilic molecules~~ with an interface;

laterally compressing said population to an appropriate pressure, such that ~~an~~ two-dimensional ordered array ~~structure~~ of said proteins~~amphiphilic molecules~~ is formed at said interface, wherein said two-dimensional ordered array has a diameter greater than 25 μm.

2. (Cancelled).

3. (Currently Amended) The method of claim ~~1~~ 64, wherein said amphiphilic molecule comprises a protein.

4. (Currently Amended) The method of claim 1 or 3, wherein said protein is a membrane protein, a cellular receptor, an orphan receptor, receptor tyrosine kinase, an EPH receptor, an ion channel, a cytokine receptor, an multisubunit immune recognition receptor, a chemokine receptor, a growth factor receptor, or a G-protein coupled receptor.

5. (Currently Amended) The method of claim 1 or 3, wherein said protein ~~amphiphilic molecule~~ is contacted with said interface in the presence of lipids.

6. (Original) The method of claim 1 or 3, further comprising applying said proteins to said interface in proteoliposomes, liposomes, or a cellular membrane.

7. (Cancelled).

8. (Currently Amended) The method of claim 1 or 64, wherein said interface is a gas-aqueous interface.

Claims 9-54 (Cancelled).

55. (Currently Amended) A method for fabricating ~~a~~n two- or three-dimensional ordered array ~~structure~~ of a protein, comprising:

expressing said protein in a cell;

obtaining said protein from said cell;

applying said protein to an interface in a crude membrane preparation;

compressing said protein on said interface to an appropriate pressure, such that ~~a~~n two- or three-dimensional ordered array ~~structure~~ of said protein is formed.

56. (Original) The method of claim 55, wherein said protein is over expressed in said cell.

57. (Original) The method of claim 55, wherein said protein is a membrane protein, a cellular receptor, an orphan receptor, receptor tyrosine kinase, an EPH receptor, an ion channel, a cytokine receptor, an multisubunit immune recognition receptor, a chemokine receptor, a growth factor receptor, or a G-protein coupled receptor.

58. (Original) The method of claim 55, wherein said protein is applied to said interface in the presence of membrane lipids.

Claims 59-62 (Cancelled).

63. (Currently Amended) A method for forming ~~a~~n two- or three-dimensional ordered array ~~structure~~ of membrane proteins, comprising:

contacting a population of membrane proteins with a gas-aqueous interface, wherein said population of membrane proteins are applied to said interface in a proteoliposome;

laterally compressing said population to an appropriate pressure, such that ~~a~~n two- or three-dimensional ordered array ~~structure~~ of said membrane proteins is formed at said gas-aqueous interface.

64. (New) A method for forming a three-dimensional ordered array of amphiphilic molecules, comprising:

contacting a population of amphiphilic molecules with a interface;

laterally compressing said population to an appropriate pressure, such that a three-dimensional ordered array of said amphiphilic molecules is formed at said interface, wherein said appropriate pressure is above a critical density point for the formation of a two-dimensional ordered array of said amphiphilic molecules.

65. (New) The method of claim 1, wherein said two-dimensional ordered crystalline structure have a diameter greater than 200 μm.

66. (New) A method for forming a two- or three- dimensional ordered array of proteins, comprising:

contacting a population of proteins in a crude membrane preparation with an interface;

laterally compressing said population to an appropriate pressure, such that a two- or three-dimensional ordered array of said proteins is formed at said interface.

67. (New) The method of claim 1, wherein said two-dimensional ordered array is a two-dimensional crystalline array.

68. (New) The method of claim 64, wherein said three-dimensional ordered array is a three-dimensional crystalline array.